



# countdown

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## Endeavour gets ready on pad, other orbiters closer to flight



◆ **Shuttle Update:** Loading of hypergolic propellants on **Endeavour** began Monday. These propellants will power the solid rocket booster hydraulic power units and orbital maneuvering system, forward reaction control system and auxiliary power units.

Workers continue filling the liquid oxygen and liquid hydrogen storage tanks at the pad. This fuel will be transferred to the external tank shortly before launch. Mating of the orbiter midbody umbilical unit, the connection point that allows for servicing of the orbiter's fuel cells, was completed July 20.

**Discovery's** main engines No. 1 and 2 have been installed, as have the heat shields for those engines. Engine cutoff sensor system and payload pre-mate testing is complete. Rigging of the latching mechanism for the orbiter boom sensor system is complete and the system has been installed for flight.

Stacking of the STS-120 solid rocket boosters in the Vehicle Assembly Building began last week, with the left aft booster and left aft center segments delivered and mated to the mobile launch platform.

**Atlantis'** dome heat shields and main engines have been removed. The checkout of the forward reaction control system is complete. Windows No. 5 and 6 were removed and replaced. The orbiter boom sensor system has been removed and inspected, with reinstallation set for this week.

## Phoenix on launch pad, Dawn returns to Astrotech

◆ **ELV Update:** **Phoenix** was mated to the upper-stage booster July 17. Spacecraft engineers installed the heat shield onto the cruise stage July 19. This was the last major milestone in spacecraft processing before going to the launch pad.

Technicians installed the integrated **Phoenix** payload into the payload transportation canister July 20. **Phoenix** was transported to Pad 17-A for mating to the **Delta II** Monday.

**Dawn** was removed from the **Delta II** launch vehicle on Saturday and returned to the Astrotech payload processing facility near NASA's Kennedy Space Center.

A firm date for launch is still being determined based on the launch window for the science of the mission, the availability of the Eastern Range and the necessary tracking, data and telemetry support. The launch opportunity extends from Sept. 7 to Oct. 15.

■ **Open Forum RehabWorks Educational Lecture Series on Knee and Shoulder Pain** — Are you suffering from knee or shoulder pain? Are you familiar with conservative treatments that can alleviate most of your common knee and shoulder pains? Is surgery in your future? Do you know what to expect? In this open forum you will learn about the common injuries of the knee and shoulder. The forum will be held from 10 to 11 a.m. Thursday in the OSB II, Room 3124. If you have a question that you would like to have addressed during this forum, please send it in an e-mail to [Mary.K.Kirkland@nasa.gov](mailto:Mary.K.Kirkland@nasa.gov).

■ **STS-118 Mission Briefing** — All KSC and CCAFS employees are invited to attend an STS-118 mission briefing. The presentation will be held in the KSC Training Auditorium at 2 p.m. Thursday. Seating will be on a first-come, first-served basis.

■ **Bruce Willis Concert and 'Armageddon' On Location at KSC Aug. 2** — Kennedy Space Center Visitor Complex and NetFlix are hosting a concert Aug. 2 featuring Bruce Willis and his Blues Band followed by a special outdoor showing of "Armageddon" in the Rocket Garden.

The concert will begin at 7 p.m. followed by the movie at 9 p.m. There are 1,000 free limited-admission tickets available for badged KSC/CCAFS employees, along with an opportunity to purchase additional tickets at \$12 each (limit five per employee). These tickets are good for admission after 4 p.m. Employee tickets are available at Exchange Stores on a first-come, first-served basis. Tickets will be available at the HQ and OSB I Exchange Stores only. General public tickets are available online at [www.kennedyspacecenter.com](http://www.kennedyspacecenter.com). Small lawn chairs and blankets are permitted.

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